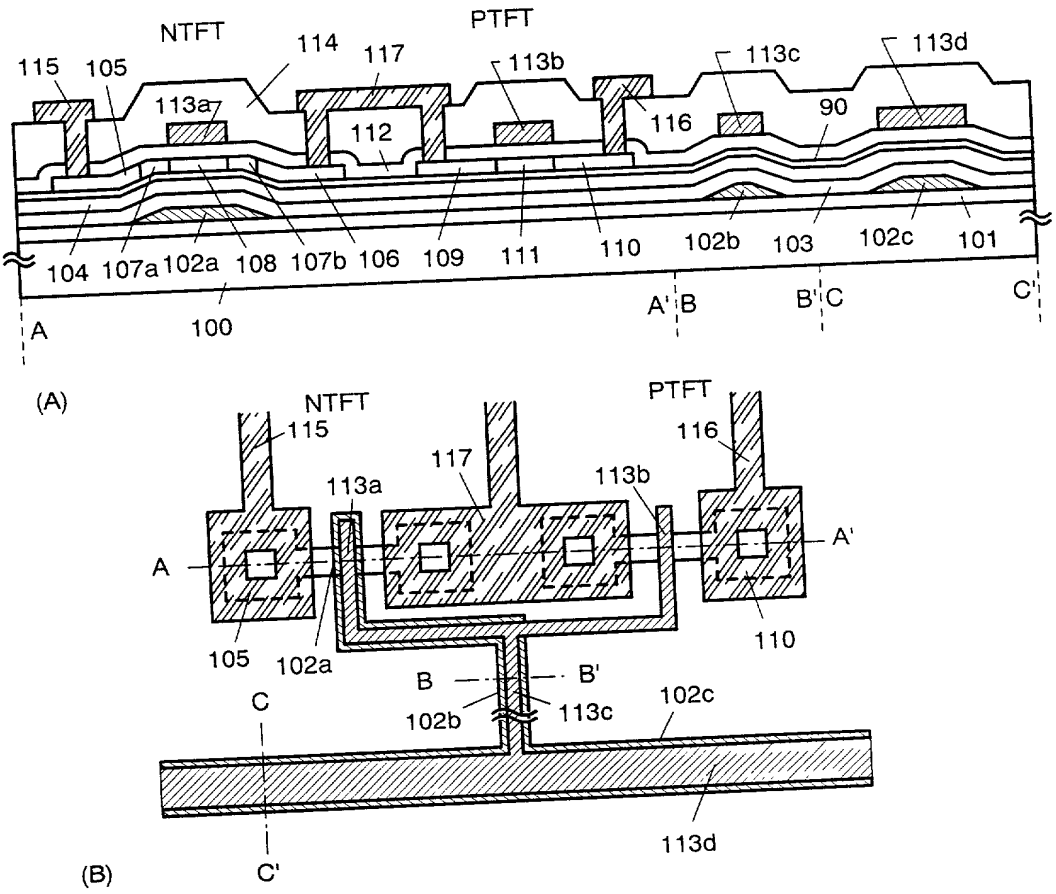
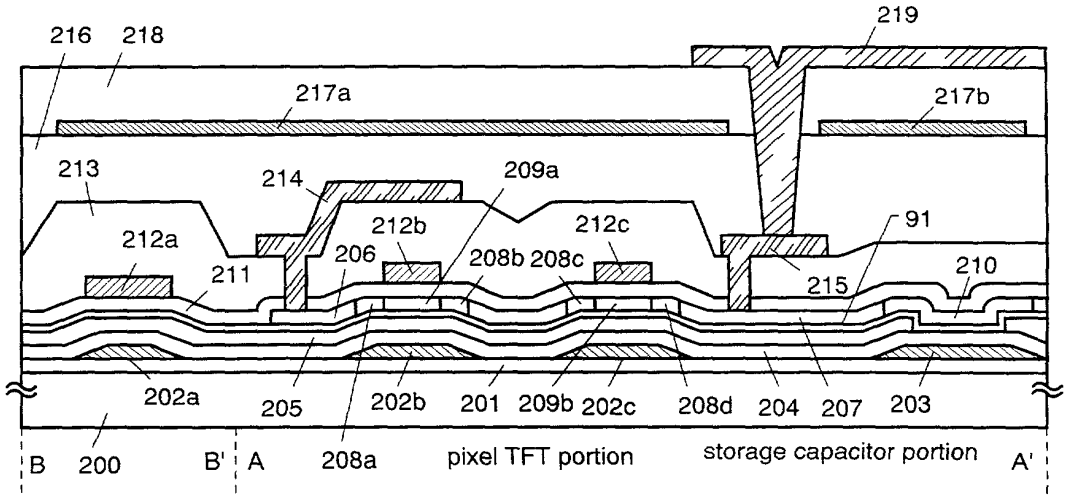
[Name of Document] Drawing

[Fig. 1]

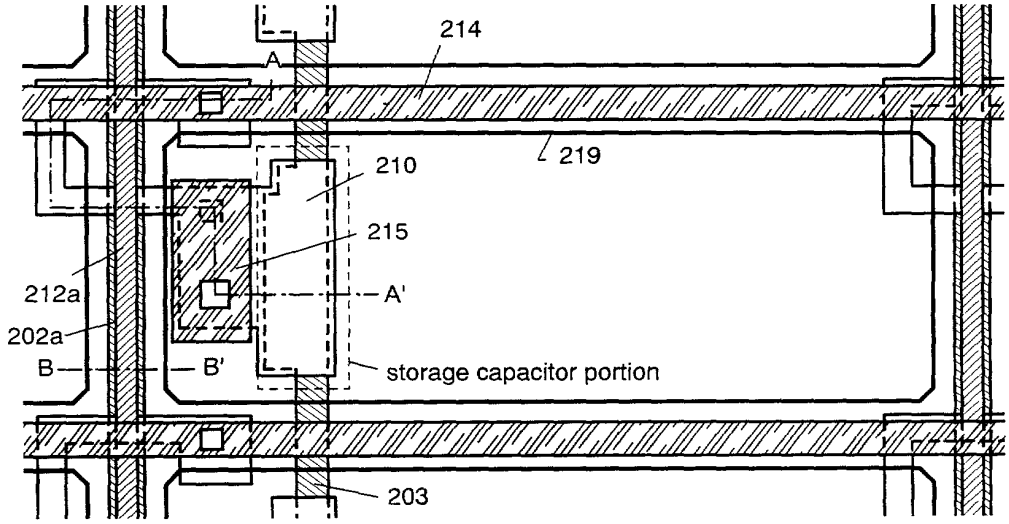


100: substrate 101: base film 102a, 102b, 102c: first wiring lines 103: first insulating layer
104: second insulating layer 105: source region (NTFT) 106: drain region (NTFT)
107a, 107b: low concentration impurity region 108: channel formation region
109: source region (PTFT) 110: drain region (PTFT) 111: channel formation region (PTFT)
112: second insulating layer 113a, 113b, 113c, 113d: second wiring lines
114: first interlayer insulating layer 115: source wiring line (NTFT)
116: source wiring line (PTFT) 117: drain wiring line (in common with NTFT and PTFT)

[Fig. 2]



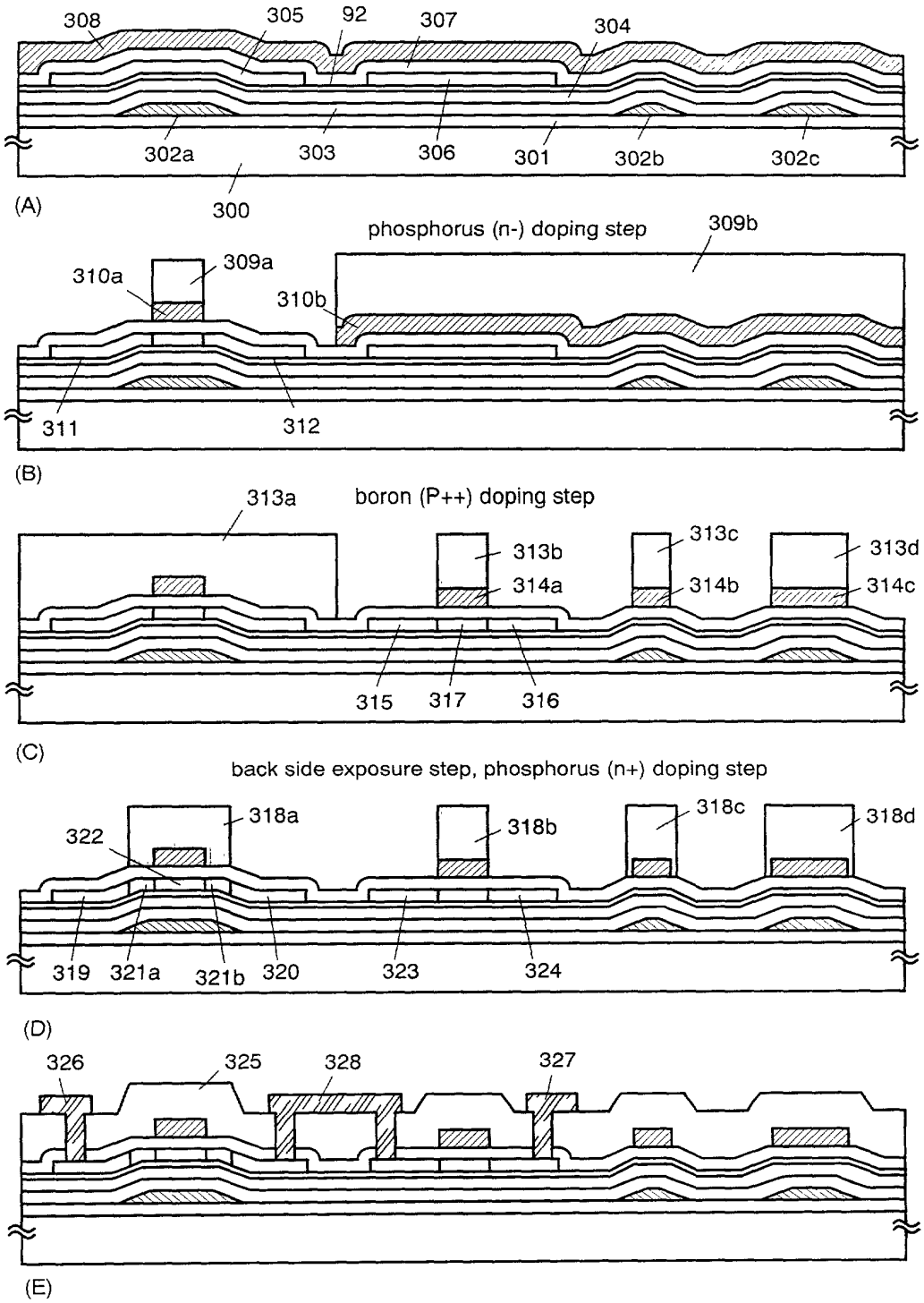
(A)



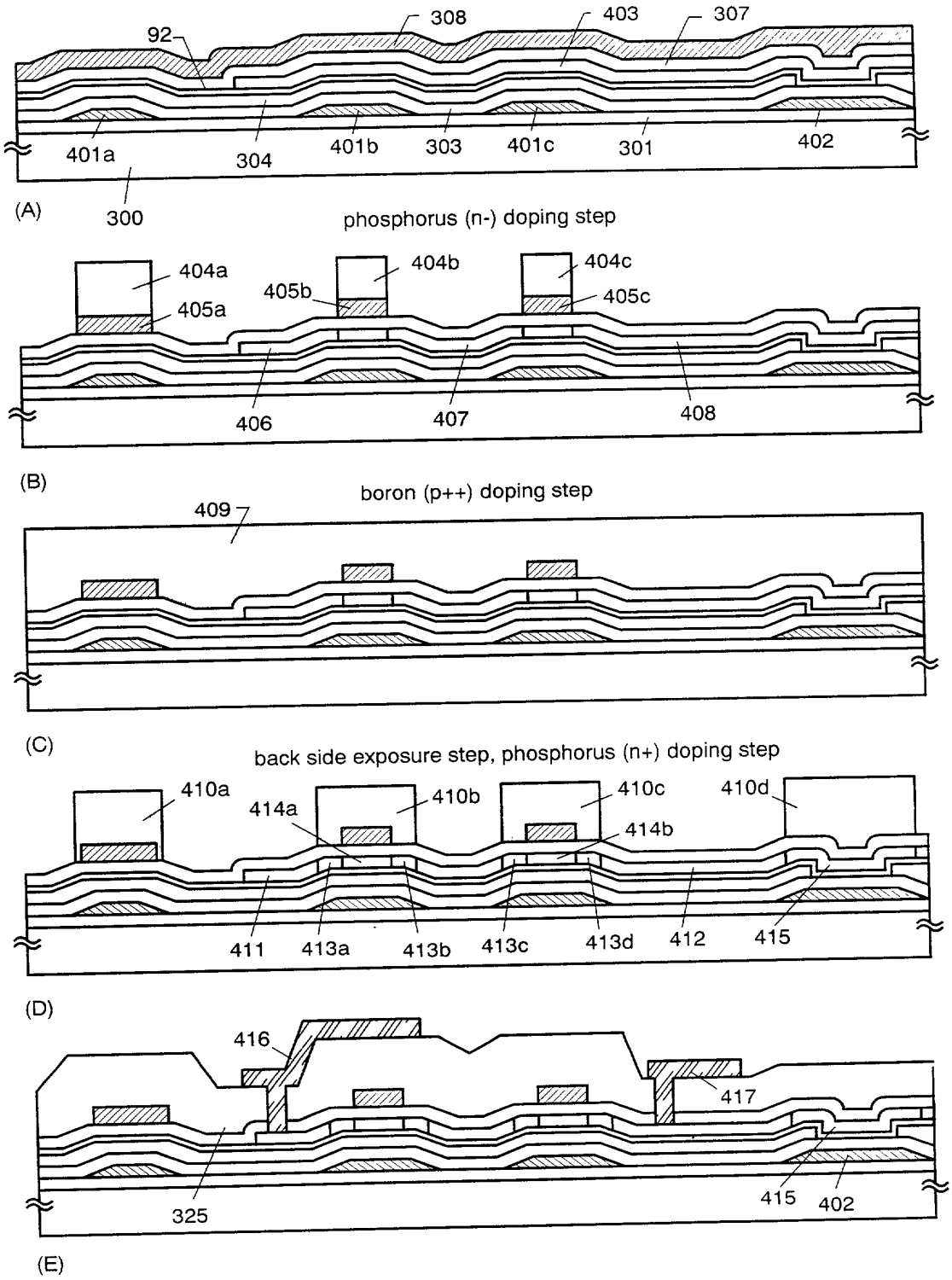
(B)

200: substrate 201: base film 202a, 202b, 202c: first wiring lines 203: capacitor wiring line
204: first insulating layer (TaOx film) 205: second insulating layer 90: silicon oxide film
206: source region 207: drain region 208a to 208d: low concentration impurity region
209a, 209b: channel formation region 210: impurity region for a capacitor
211: third insulating layer 212a, 212b, 212c: second wiring lines
213: first interlayer insulating layer 214: source wiring line 215: drain wiring line
216: second interlayer insulating layer 217a, 217b: black mask
218: third interlayer insulating layer 219: pixel electrode

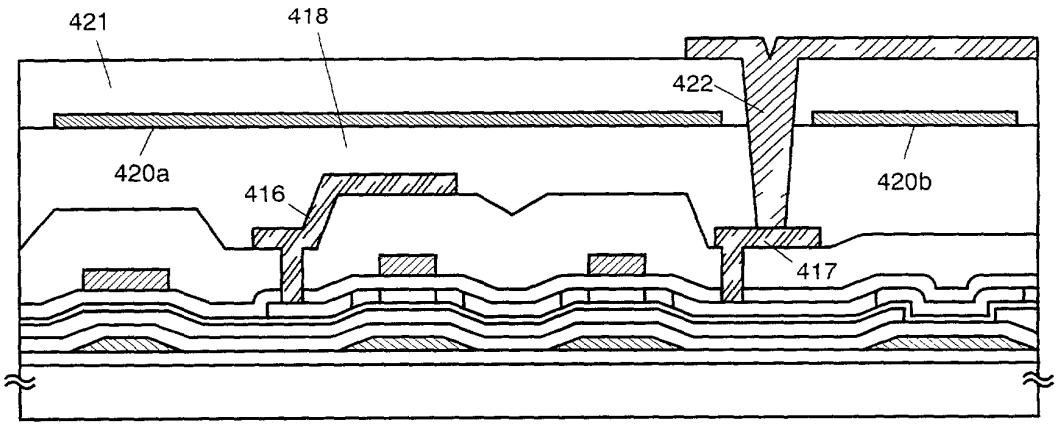
[Fig. 3]


308
305
92
307
304
302a
303
306
301
302b
302c
300
(A)
phosphorus (n-) doping step
309b
310a
309a
310b
311
312
(B)
313a
boron (P++) doping step
313b
313c
313d
314a
314b
314c
315
317
316
(C)
back side exposure step, phosphorus (n+) doping step
318a
322
318b
318c
318d
319
321a
321b
320
323
324
(D)
326
325
328
327
(E)

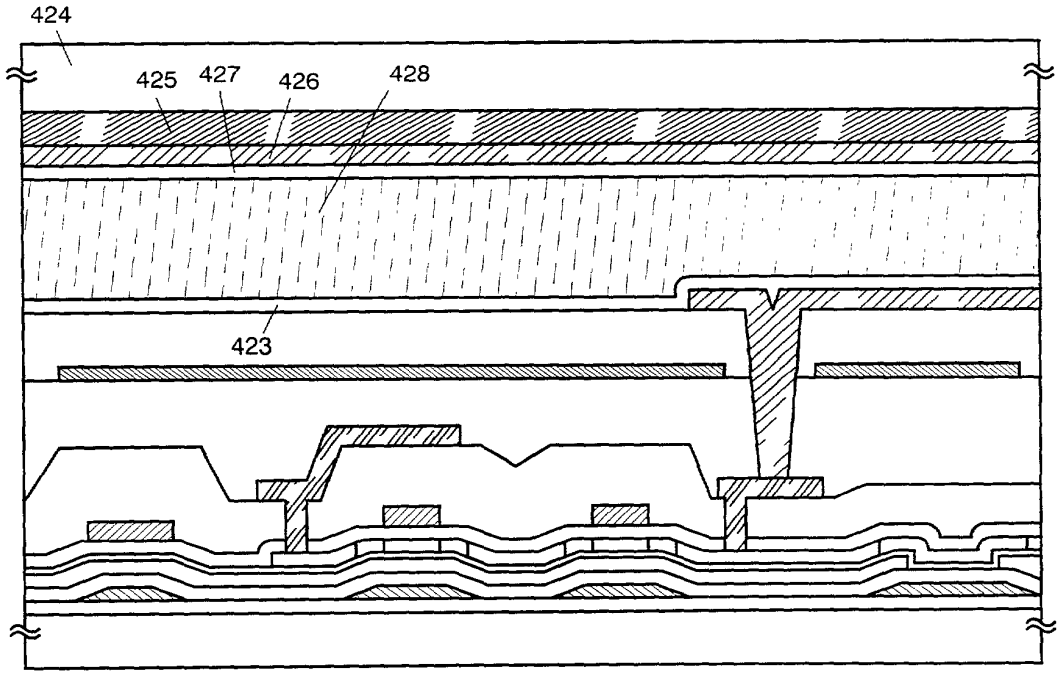
[Fig. 4]


92
308
403
307
401a
304
401b
303
401c
301
402
300
(A)
phosphorus (n-) doping step
404a
405a
405b
404b
404c
405c
406
407
408
(B)
boron (p++) doping step
409
(C)
back side exposure step, phosphorus (n+) doping step
410a
414a
410b
410c
410d
414b
411
413a
413b
413c
413d
412
415
(D)
416
417
325
415
402
(E)

[Fig. 5]

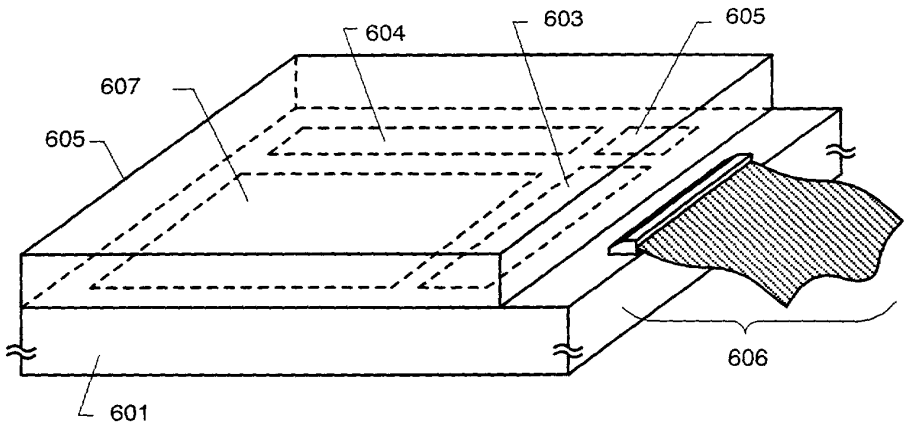


(A)



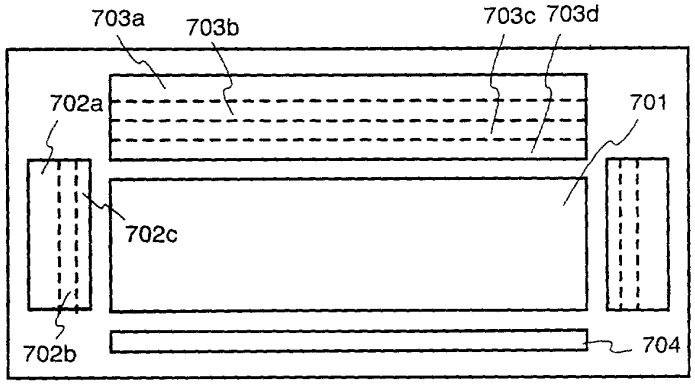
(B)

[Fig. 6]



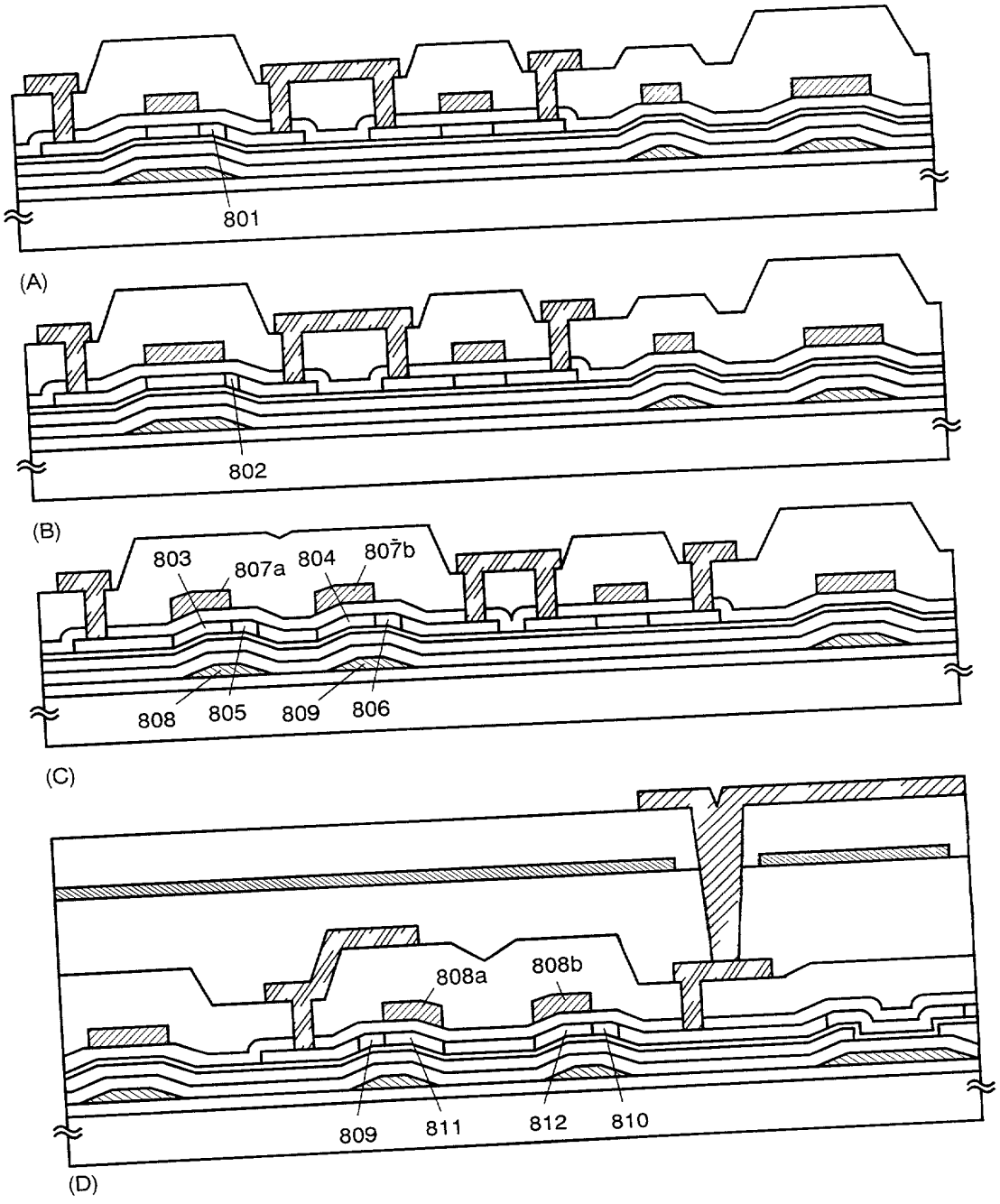
601: substrate with an insulating surface 602: pixel matrix substrate
603: source driver circuit 604: gate driver circuit
605: signal processing circuit 606: FPC 607: opposite substrate

[Fig. 7]

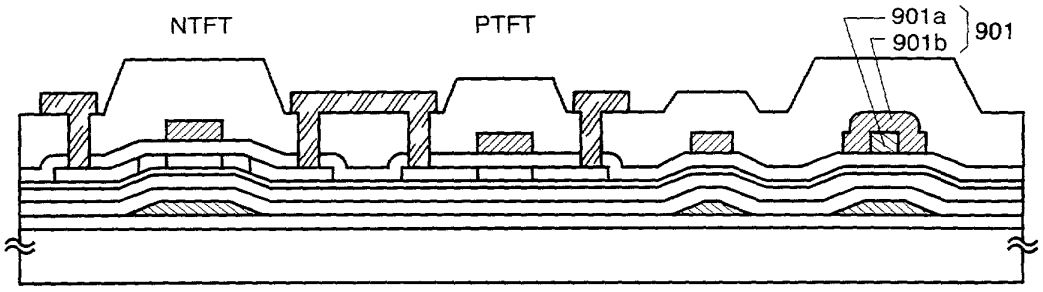


701: pixel matrix circuit 702a, 703a: shift register circuit
702b 703b: level shifter circuit 702c, 703c: buffer circuit
703d: sampling circuit 704: precharge circuit

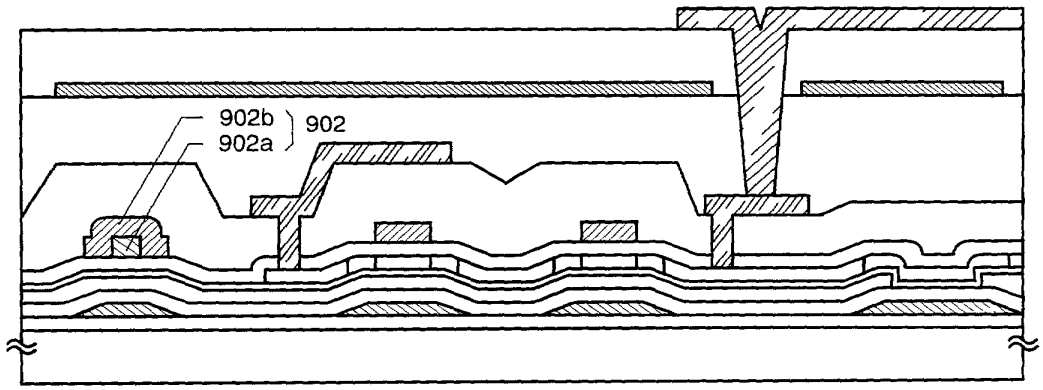
[Fig. 8]


801
(A)
802
(B)
803
807a
804
807b
808
805
809
806
(C)
808a
808b
809
811
812
810
(D)

[Fig. 9]

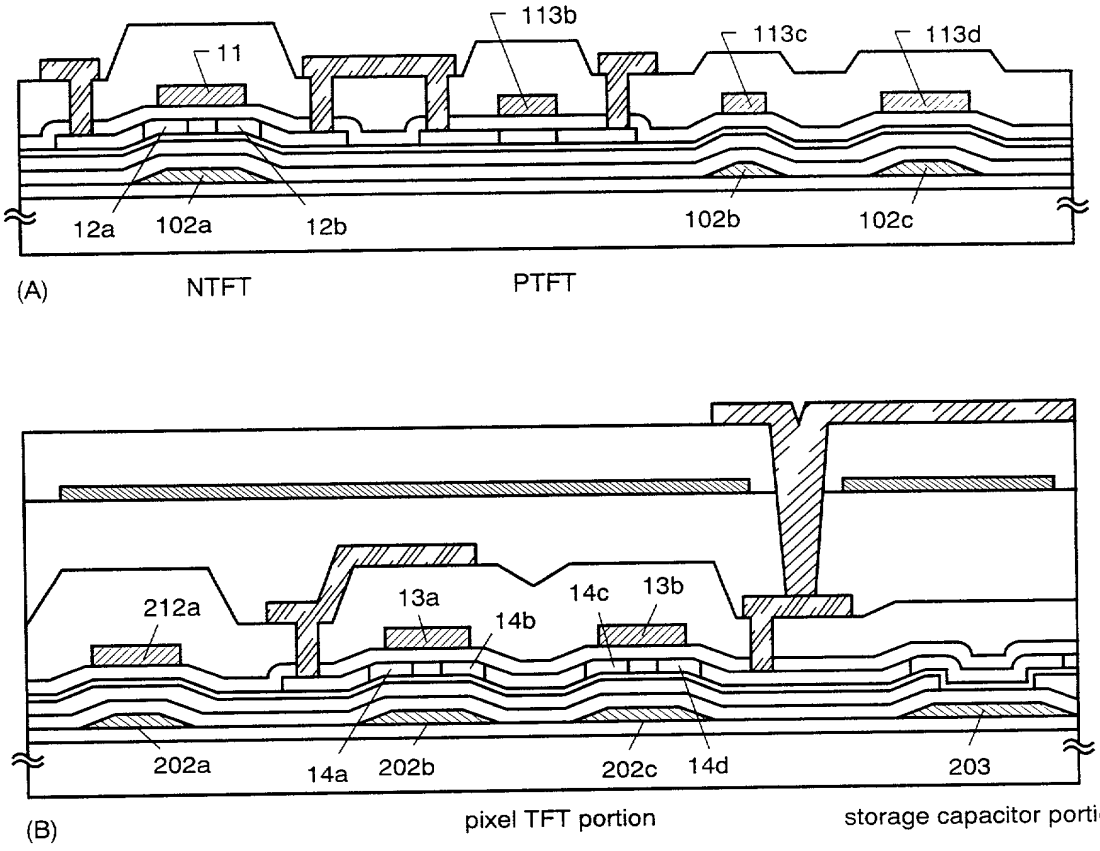


(A)

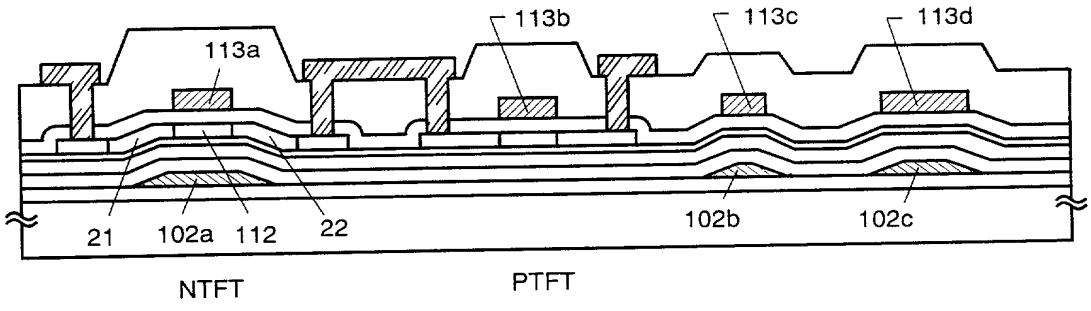


(B) pixel TFT portion storage capacitor portion

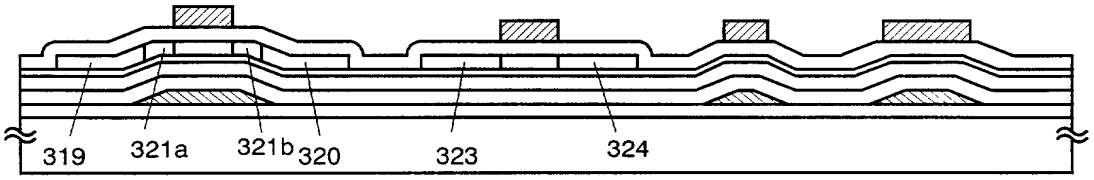
[Fig. 10]


113b
113c
113d
11
12a
102a
12b
102b
102c
(A)
NTFT
PTFT
212a
13a
14b
14c
13b
202a
14a
202b
202c
14d
203
(B)
pixel TFT portion
storage capacitor portion

[Fig. 11]

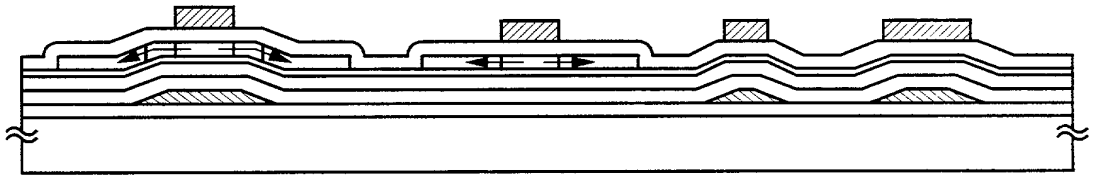

113b
113c
113d
113a
21
102a
112
22
102b
102c
NTFT
PTFT

[Fig. 12]



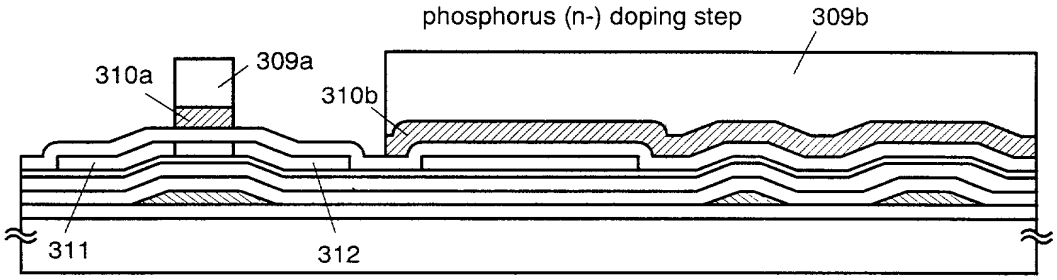
(A)

gettering step by phosphorus

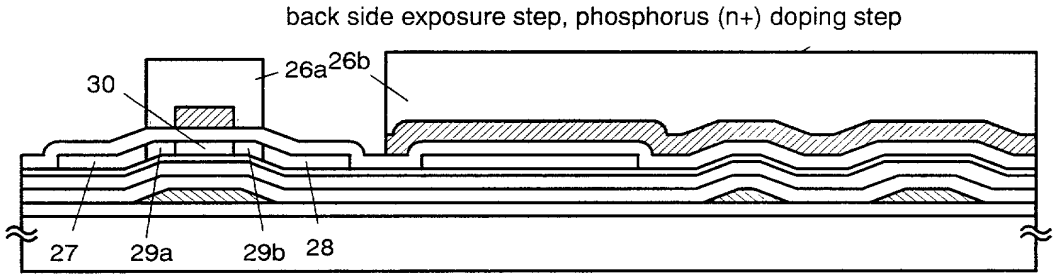


(B)

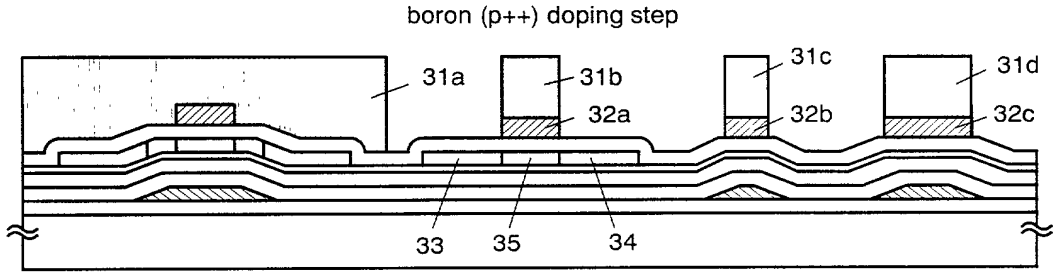
[Fig. 13]


phosphorus (n-) doping step
309b
310a
309a
310b
311
312

(A)

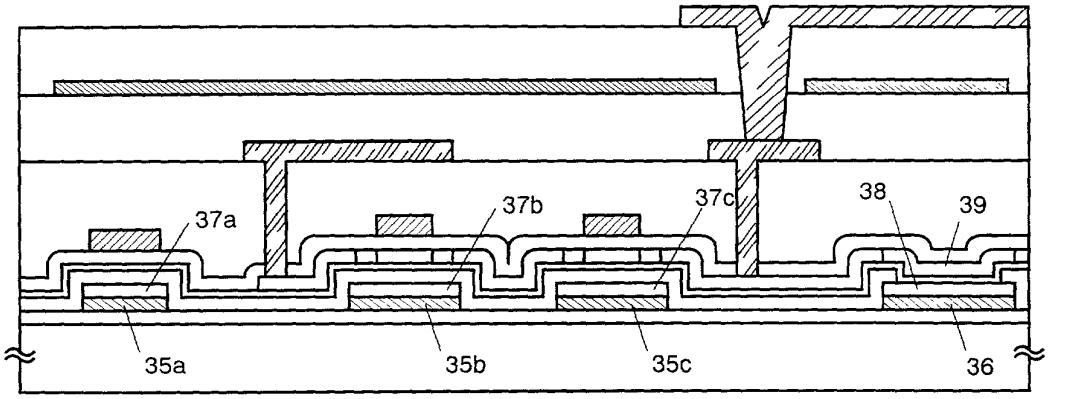

back side exposure step, phosphorus (n+) doping step
30
26a
26b
27
29a
29b
28

(B)

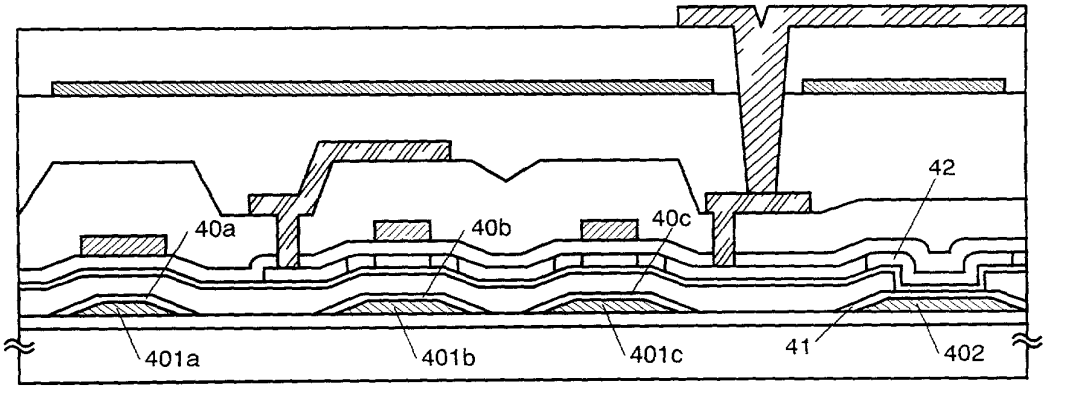

boron (p++) doping step
31a
31b
31c
31d
32a
32b
32c
33
35
34

(C)

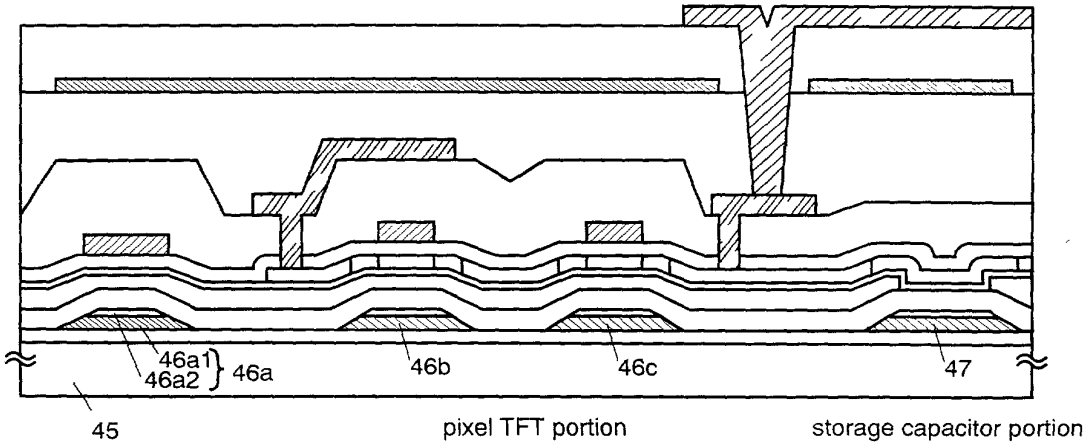
[Fig. 14]


37a
37b
37c
38
39
35a
35b
35c
36
pixel TFT portion
storage capacitor portion

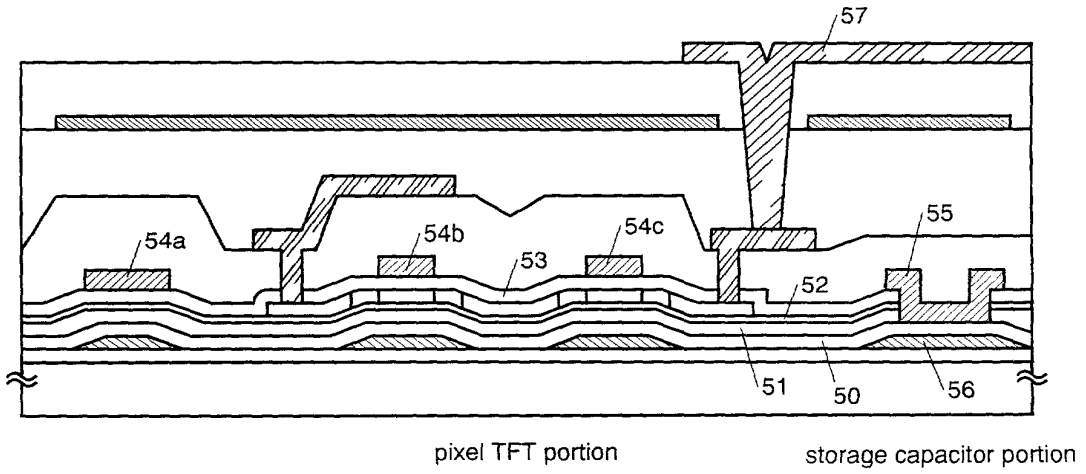
[Fig. 15]


42
40a
40b
40c
401a
401b
401c
41
402
pixel TFT portion
storage capacitor portion

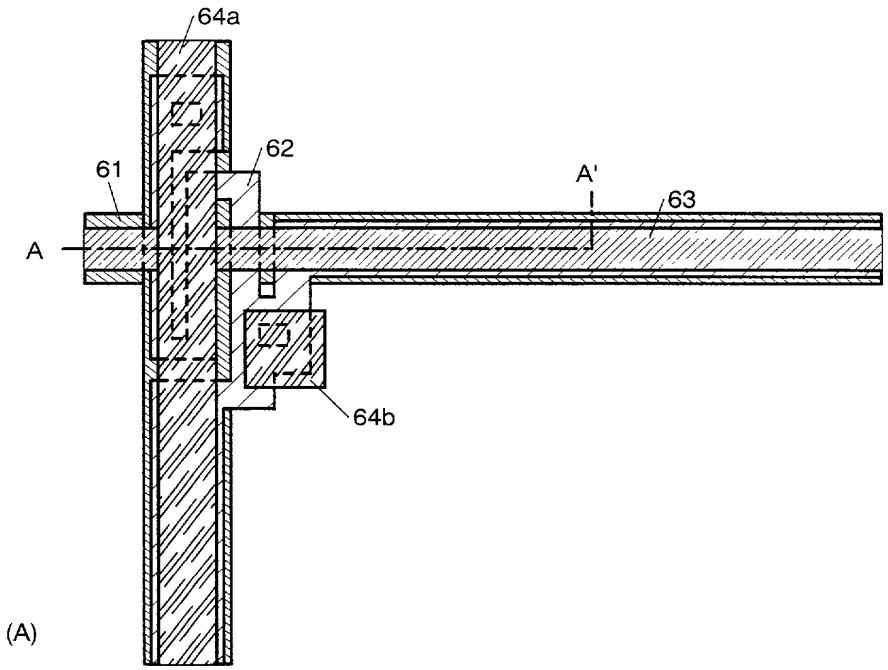
[Fig. 16]


46a1
46a2
46a
46b
46c
47
45
pixel TFT portion
storage capacitor portion

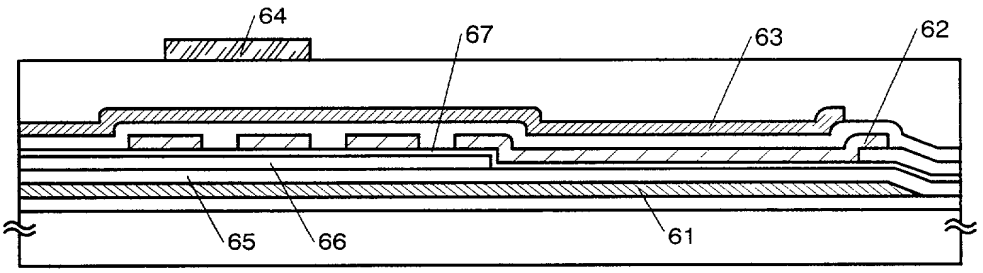
[Fig. 17]


57
54a
54b
53
54c
55
52
51
50
56
pixel TFT portion
storage capacitor portion

[Fig. 18]



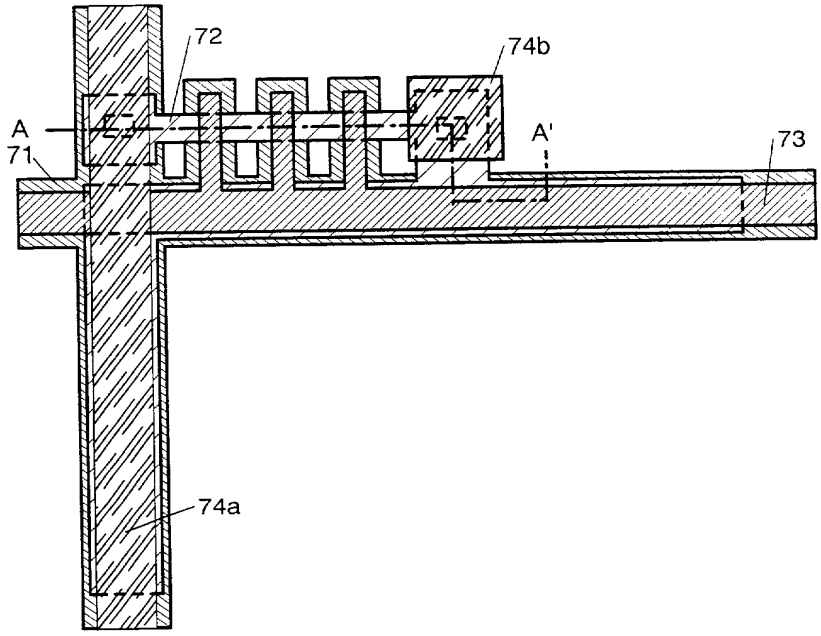
(A)



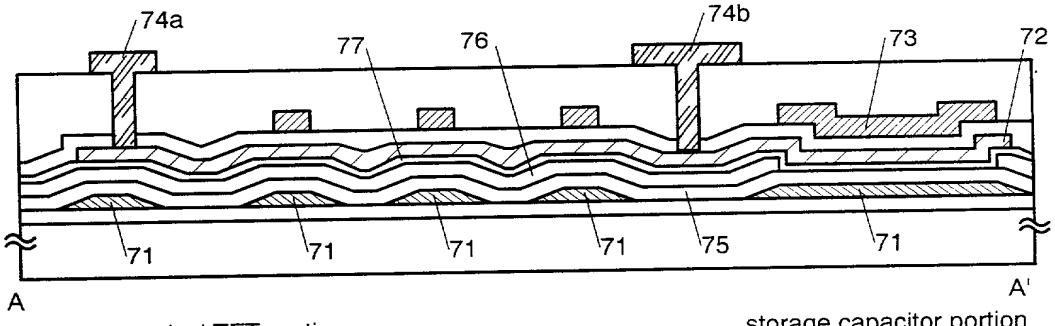
A pixel TFT portion storage capacitor portion A'

(B)

[Fig. 19]



(A)

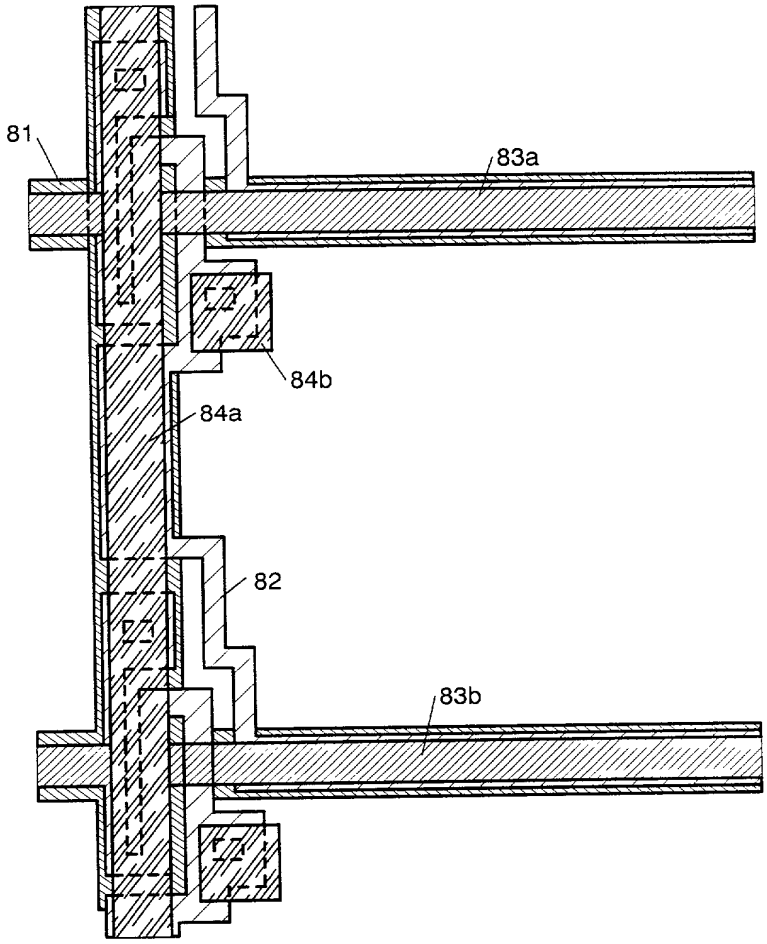


pixel TFT portion

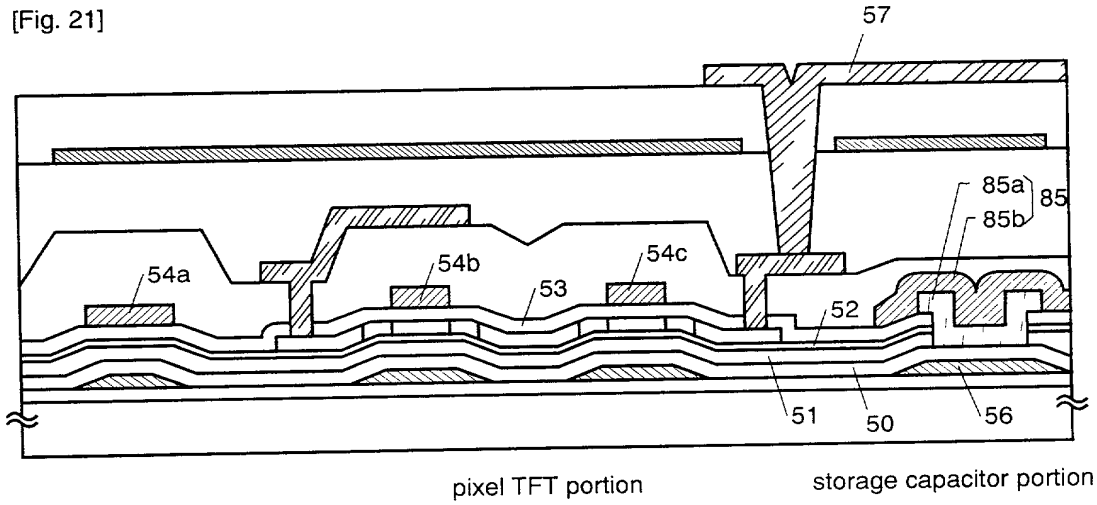
storage capacitor portion

(B)

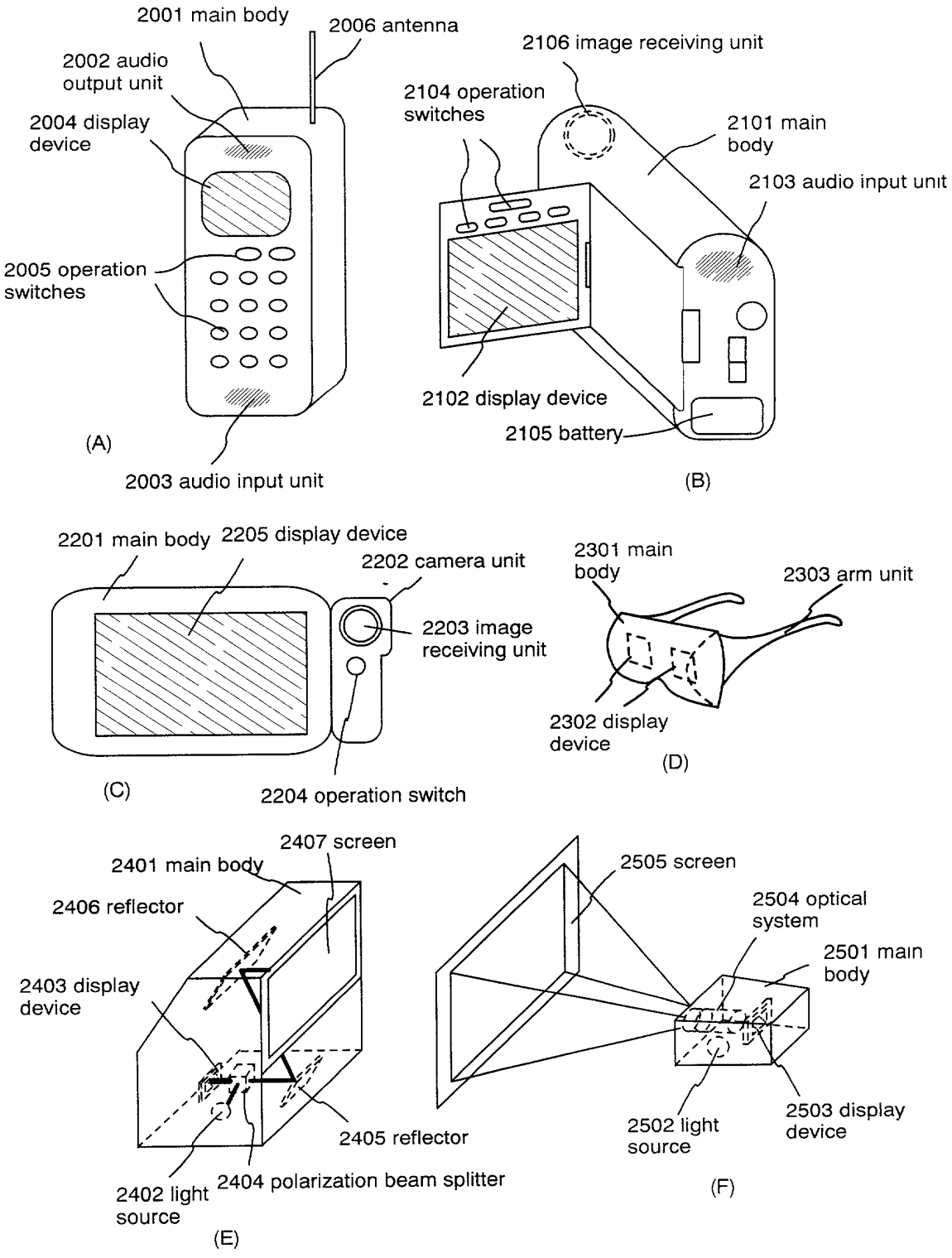
[Fig. 20]


81
83a
84b
84a
82
83b

[Fig. 21]


57
85a
85b
85
54a
54b
53
54c
52
51
50
56
pixel TFT portion
storage capacitor portion

[Fig. 22]


2001 main body
2006 antenna
2002 audio output unit
2004 display device
2005 operation switches
2003 audio input unit
(A)
2106 image receiving unit
2104 operation switches
2101 main body
2103 audio input unit
2102 display device
2105 battery
(B)
2201 main body
2205 display device
2202 camera unit
2203 image receiving unit
2204 operation switch
(C)
2301 main body
2303 arm unit
2302 display device
(D)
2407 screen
2401 main body
2406 reflector
2403 display device
2405 reflector
2402 light source
2404 polarization beam splitter
(E)
2505 screen
2504 optical system
2501 main body
2502 light source
2503 display device
(F)